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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,305	02/22/2002	Carl Tyren	3660-34	8227

7590

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EXAMINER

PREVIL, DANIEL

ART UNIT

PAPER NUMBER

2636

DATE MAILED: 03/10/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

10/009,305

Applicant(s)

TYREN, CARL

Examiner

Daniel Previl

Art Unit

2636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This action is responsive to communication filed on December 17, 2003.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schrott et al. (US 5,821,859) in view of Tyren Carl (WO 93/14478).

Regarding claim 10, Schrott discloses a tag for electronic article identification, comprising at least two magnetic elements representing an identity of the tag, or of an article to which the tag is attached, magnetic elements being electromagnetically detectable (col. 1, lines 4-8) comprising: the magnetic elements are formed as wires made from an amorphous (abstract); at least one of the magnetic elements has a length, which is different from the length of at least one other magnetic of the tag (fig. 8A, ref. 801; fig. 9A; col. 9, lines 4-6); at least one of the magnetic elements has a diameter, which is different from the diameter of at least one other magnetic element of the tag (fig. 8A, ref. 844 and fig. 9A, ref. 944).

Schrott discloses every feature of the claimed invention but fails to explicitly disclose the magnetic elements are arranged at different predetermined angular positions; the lengths and diameters of the magnetic elements and the angles between them jointly form the identity of the tag.

However, Tyren discloses the magnetic elements are arranged at different predetermined angular positions (fig. 10); the lengths and diameters of the magnetic elements and the angles between them, jointly form the identity of the tag (fig. 10; page 17, lines 21-35; page 18, lines 11-14; page 20, lines 34-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Tyren in Schrott. Doing so would arranged accurately the magnetic elements at different angular positions in order to detect efficiently the presence of the tag for economical and security purposes as taught by Tyren (page 1).

Regarding claim 11, although, the above combination discloses all the limitations in claim 1 but fails to specify that the diameters of the magnetic elements are selected from a range between 10 and 100  $\mu\text{m}$ . Since, Tyren discloses diameter of the magnetic elements (fig. 10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the diameters between any range in order to increase the safety of the tag as taught by Tyren (page 11, lines 5-10).

Regarding claim 12, although, the above combination discloses all the limitations in claim 1 but fails to specify that the lengths of the magnetic elements are selected from a range between 40 and 100 um. Since, Tyren discloses lengths of the magnetic elements (fig. 10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the length between any range in order to increase the safety of the tag as taught by Tyren (page 11, lines 5-10).

3. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schrott in view of Tyren 478 and further in view of Tyren (WO 97/29464).

Regarding claim 13, the above combination discloses all the limitations in claim 10 but fails to explicitly disclose magnetic element with a coating of dielectric material, such as glass.

However, Tyren 464 discloses dielectric environment inside a glasstube filled with a liquid (page 11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Tyren 464 in Schrott and Tyren 478 . Doing so would detect accurately the presence of the tag for economical and security purposes.

Regarding claim 14, the above combination discloses all the limitations in claim 10 and Tyren 464 further discloses amorphous material with giant magnetoimpedance effect (page 12).

Regarding claim 15, the above combination discloses all the limitations in claim 10 and Tyren 464 further discloses magnetic element has a majority ratio of cobalt (page 11).

Regarding claim 16, the above combination discloses all the limitations in claim 10 and Tyren 464 further discloses ( $\text{Fe}_{0.06} \text{Co}_{0.94}$ )  $72.5\text{Si}12.5\text{B}15$  (page 11).

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schrott in view of Tyren (WO 93/14478).

Regarding claim 17, Schrott discloses a method of encoding an identity code into an electronic article identification tag having a plurality of magnetic elements, identity code comprising a plurality of words at respective positions in a numeral system, each word being capable of storing one of n different values (abstract) comprising: a first set of lengths for magnetic elements wherein at least one magnetic element is provided with a length that is different from the length of at least one other magnetic element of the tag (fig. 8A; fig. 9A); providing a second set of diameters for magnetic elements, wherein at least one magnetic element is provided with a diameter that is different from the diameter of at least one other magnetic element of the tag (fig. 8, ref. 844, fig. 9A, ref. 944); forming a third set of element types by associating one unique length among first set of lengths and one unique diameter among second set of diameters with each respective element type (fig. 8A; fig. 9A); mapping each of n different values to a respective element type (fig. 2; fig. 8A; Fig. 9A); arranging in tag, for each word in

identity code (1's and 0's) a magnetic element of the type corresponding to the value of the word (abstract)

Schrott discloses every feature of the claimed invention but fails to explicitly disclose providing a fourth set of different angular positions for magnetic elements.

However, Tyren discloses different angular positions for magnetic elements (fig. 10).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Tyren in Schrott. Doing so would arrange efficiently different angular positions for magnetic elements in order to detect accurately the tag for economical and security purposes as taught by Tyren (page 1).

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tyren (WO 93/14478) in view of Tyren (WO 97/29464).

Regarding claim 18, Tyren 478 discloses an article identification apparatus, where an individual article is provided with a tag (page 1) comprising: a plurality of magnetic elements arranged at different angular positions, each magnetic element having a length and a diameter, where the lengths, diameters and angular positions of the magnetic elements define an identity of the tag (fig. 10).

Tyren 478 discloses the limitations above but fails to explicitly disclose transmitter means for transmitting a first electromagnetic signal in a detection zone; a receiver for receiving a second electromagnetic signal for receiving a second electromagnetic signal generated by the tag in response to the first electromagnetic signal from the transmitter; modulator for generating a magnetic field for modulating the second electromagnetic signal during the generation by the tag; demodulator for producing a reply signal by demodulating the second electromagnetic signal as received by the receiver; and a controller connected to the demodulator wherein the modulator is arranged to generate a magnetic modulating field having a rotating orientation, wherein the controller is arranged to detect when a frequency shift occurs for the reply signal and in response determine of an individual magnetic element; the modulating means is arranged to generate a magnetic modulating field with increasing amplitude, wherein the controller is arranged to determine a corresponding change in amplitude of the reply signal and in response determine individual magnetic element; the modulating means is arranged to generate a magnetic modulating field with increasing amplitude, wherein the controller is arranged to continuously monitor an amplitude of the reply signal so as to detect a saturation point and in response determine of individual magnetic element.

However, Tyren 464 discloses transmitter means 11 for transmitting a first electromagnetic signal in a detection zone, a receiver means 12 for receiving a second electromagnetic signal, modulating means for generating a magnetic field



for modulating the second electromagnetic signal during the generation by the tag; demodulating means for producing a reply signal by demodulating the second electromagnetic signal as received by the receiver means and a controller connected to the demodulating means wherein the modulating means is arranged to generate a magnetic modulating field having a rotating orientation, wherein the controller is arranged to detect when a frequency shift occurs for the reply signal and in response determine of an individual magnetic element; the modulating means is arranged to generate a magnetic modulating field with increasing amplitude, wherein the controller 14 is arranged to determine a corresponding change in amplitude of the reply signal and in response determine individual magnetic element; the modulating means is arranged to generate a magnetic modulating field with increasing amplitude, wherein the controller is arranged to continuously monitor an amplitude of the reply signal so as to detect a saturation point and in response determine of individual magnetic element (driving stage 17 comprises means for generating a low-frequency modulating current; modulating current in amplitude as a function of time) (fig. 1; fig. 6-fig. 7; abstract; page 7-page 10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Tyren 464 in Tyren 478. Doing so would detect accurately the presence of the tag for economical and security purposes.

***Response to Arguments***

6. Applicant's arguments with respect to claims 10-18 have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dames et al. (US 5,420,569) discloses a remotely readable data storage devices and apparatus.

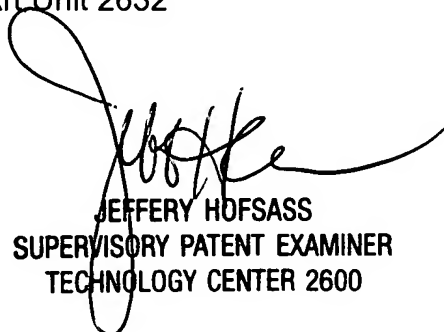
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Previl whose telephone number is 703 305-1028. The examiner can normally be reached on Monday-Thursday. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Hofsass can be reached on 703 305 4717. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9314 for regular communications and 703 872-9315 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-4700.

DP  
February 24, 2003.

Daniel Previl  
Examiner  
Art Unit 2632



JEFFERY HOFSSASS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

Application/Control Number: 10/009,305  
Art Unit: 2636

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